# 1.0 INTRODUCTION

The New York City Watershed Regulations (the "Rules and Regulations for the Protection from Contamination, Degradation and Pollution of New York City Water Supply and its Sources") could have a dramatic effect on local land use, community character, and economic activity in watershed municipalities. For the watershed municipalities to become full partners in watershed protection, they must be empowered to manage the growth and developmental changes anticipated as a result of the watershed Memorandum of Agreement (MOA), the Watershed Regulations, and the land acquisition and infrastructure improvement programs outlined in the MOA. The Croton Plan will establish a basis upon which the Town of Southeast can affirm its primacy in local land use planning and community development issues, as well as its contribution to water quality protection and watershed planning efforts.

The Croton Plan will address the question of how the Town of Southeast can guide development in a manner that balances community and economic development with water quality protection. This section of Southeast's contribution to the Croton Plan describes Southeast's existing community character, some of the demographic and development trends that have shaped the community in the last few decades, likely areas of new development, and possible effects of the Watershed Regulations on community character and economic development issues.

This Section, and Section 2.0 which identifies existing areas of concern with respect to water quality, accomplish the first two of three main objectives of the Croton Plan (see §18-82 of the Watershed Regulations):

- 1) Identification of factors important to community character
- 2) Identification of factors contributing to water quality

The third main objective of the Croton Plan is to integrate the land use planning and water quality protection measures into a comprehensive approach for:

3) Development of planning and infrastructure strategies to ensure balanced community development to protect community character and water quality.

Later sections of the Croton Plan will address how the third objective can be accomplished.

In addition to achieving the objectives of the Croton Plan, a comprehensive approach to land use and environmental planning will have direct benefits to residents and businesses of Southeast. The quality of drinking water drawn from wells and the quality of Southeast's lakes depend on how well land use is managed. Protecting the quality of Southeast's environment and its own drinking water quality is an underlying local objective of this document.

04/02

## 1.1 COMMUNITY CHARACTER ASSESSMENT

## 1.1.1 REGIONAL CONTEXT

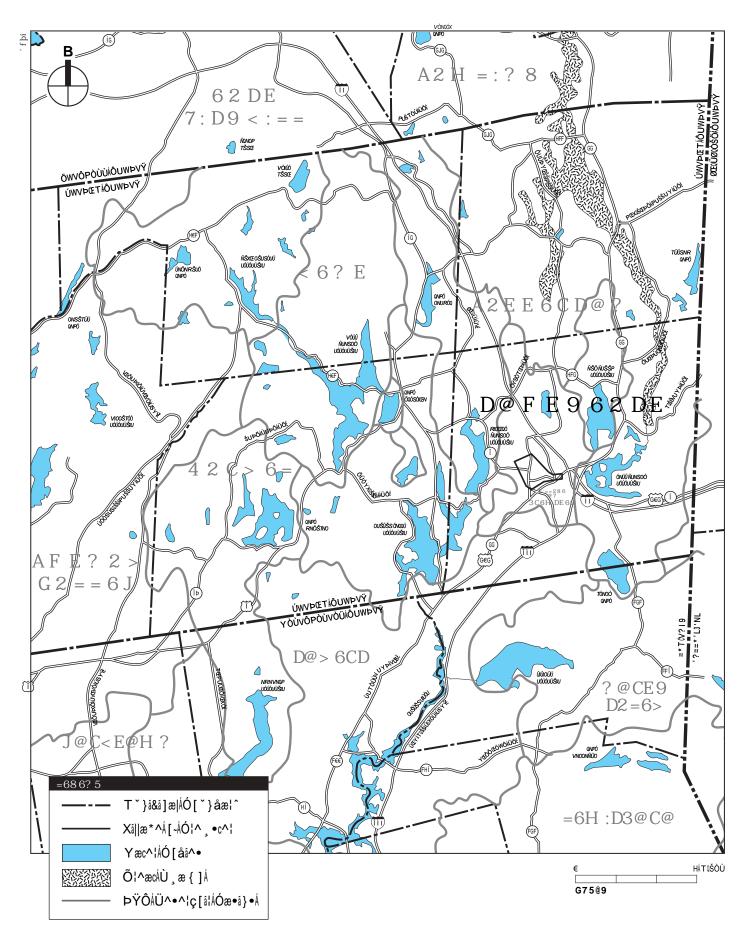
The Town of Southeast is a picturesque and peaceful community of nearly 33 square miles. Within that area is a diversity of landscapes and community patterns including: rolling hills, reservoirs, lakes, and streams, historic farm properties, and suburban housing developments as well as areas of commercial activity, both retail strips and office parks. The Village of Brewster, a separate political jurisdiction, is the historic center of the Town of Southeast and retains its identity as one of the centers of the Town (see Figure 1.1-1).

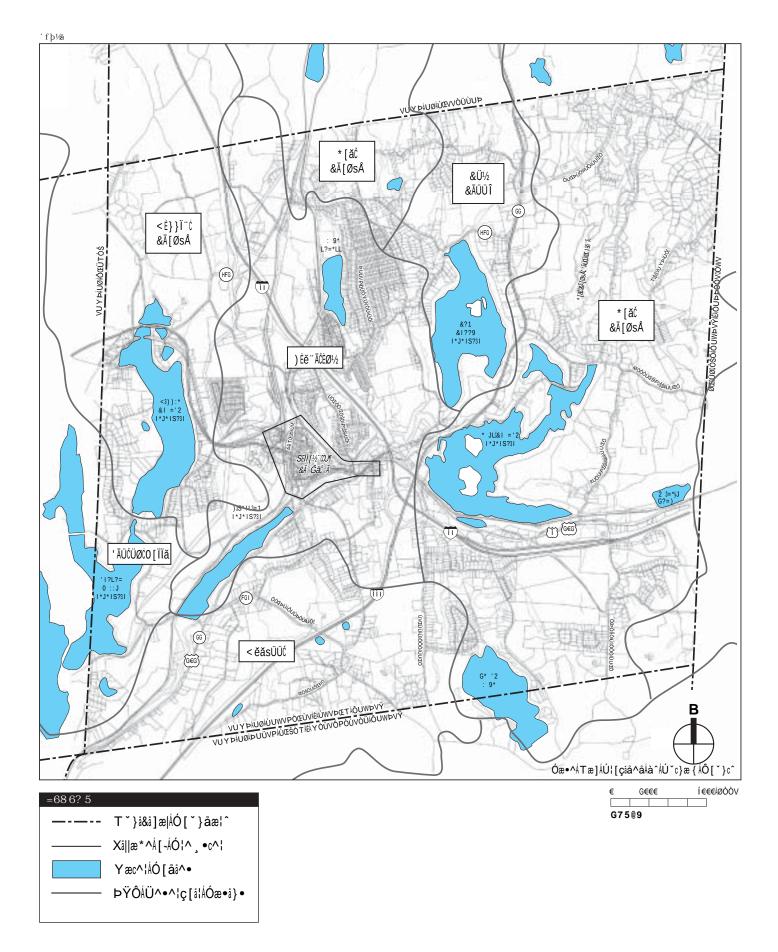
The Town of Southeast is the economic center of Putnam County. The Town's access to major transportation corridors, including the Metro-North Railroad and two interstate highways (I-684 and I-84), has made the Town an attractive location for new economic activity and a major exporter of workers to jobs in Westchester and Fairfield counties, and New York City. As more people are choosing to live in Putnam County, Southeast's community character is shifting from a rural to a more suburban community. However, the Town is committed to maintaining its overall rural quality in areas outside of the more developed commercial and residential districts.

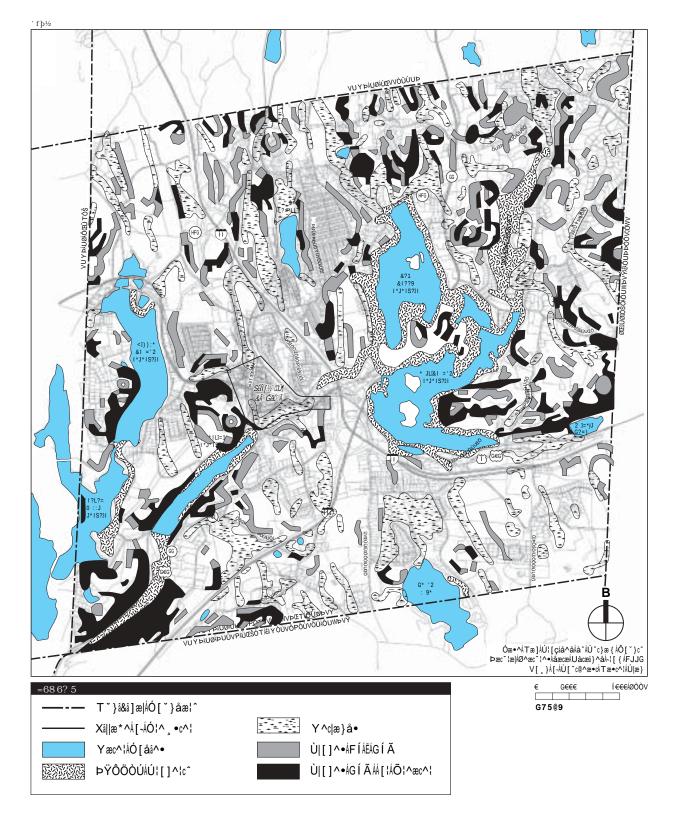
The Town of Southeast is also at the center of the Croton Watershed, the source of 10 percent of New York City's drinking water supply during normal conditions and up to 30 percent during drought conditions. In all, 99 percent of the Town's land area lies within New York City's drinking water supply watershed. Five reservoirs are located in the Town—Bog Brook, East Branch, Middle Branch, Croton Falls, and Diverting Reservoir—and the drainage basin of a sixth, the Muscoot, occupies a portion of the southwest corner of the Town (see Figure 1.1-2). The drainage basins for these reservoirs extend beyond the Town's boundaries into neighboring communities in Putnam and Westchester Counties. Southeast shares New York City watershed basins with Patterson, Kent, and Carmel in Putnam County and with North Salem in Westchester County. (A portion of Fairfield County, Connecticut also drains into Southeast). The East Branch of the Croton River flows diagonally northeast to southwest through the Town. In addition, several large lakes and wetland areas are located in Southeast: Tonetta Lake and Peach Lake form the nucleus of several residential communities and the Great Swamp is a regionally significant wetland area that covers parts of Southeast and Patterson.

The attractiveness of Southeast as a place to live and to do business is a product of its proximity to major business centers in the tri-state metropolitan area and the numerous scenic views and neighborhood qualities. As these qualities have been discovered by the growing suburban market, the balance of different land uses in Southeast has shifted from a community of agricultural uses, larger estates and horse farms, seasonal homes, light manufacturing based on natural resources (e.g., timber and mining), and undeveloped open lands toward increased residential subdivision developments, commercial retail strips, and local and regional business offices. This change in the Town's land use pattern has resulted in impacts to the environmental character of the community and to the water quality of both groundwater aquifers and reservoirs that provide Southeast and New York City with drinking water.

Physically, the character of the Town is defined by the streams and reservoirs and the rugged topography of the many hills that surround them (see Figure 1.1-3). Historically, where the land flattened out from the hills and steep slopes, the rural landscape was dotted with farms, small hamlets, and low-density residential areas. This land use pattern was lost when the valleys were flooded for construction of New York City's reservoir system. Houses and farms were relocated to land above the reservoirs but the older centers were lost. Development and economic activity







slowed until early in the 20th century when resorts were built to take advantage of the scenic qualities of the Town and its reservoirs. The post-World War II residential boom began to change the face of Southeast as existing residential neighborhoods matured. Growth over the last three decades has spread new residential development further and has changed the overall Town pattern to a more suburban character with nodes of commercial activity along the primary roads traversing through the Town.

Economically, the community continues to be shaped by its location within the larger New York City metropolitan area. Firms seeking to take advantage of the metropolitan market while providing quality of life for its employees will locate within Putnam County. The easy access to the Interstate highways within the Town of Southeast provides many of these firms, and the Town itself, with a competitive advantage.

#### 1.1.2 LAND USE TRENDS IN SOUTHEAST AND PUTNAM COUNTY

The effects of development and the "suburbanization" of the rural landscape in Southeast can be observed through an examination of aerial surveys (prepared by Cornell University for Putnam County in 1968 and 1991), land use data compiled from NYCDEP studies by the Putnam County Department of Planning, and an evaluation of Town of Southeast Tax Parcel data from 2000. During this 33-year period, several trends are apparent:

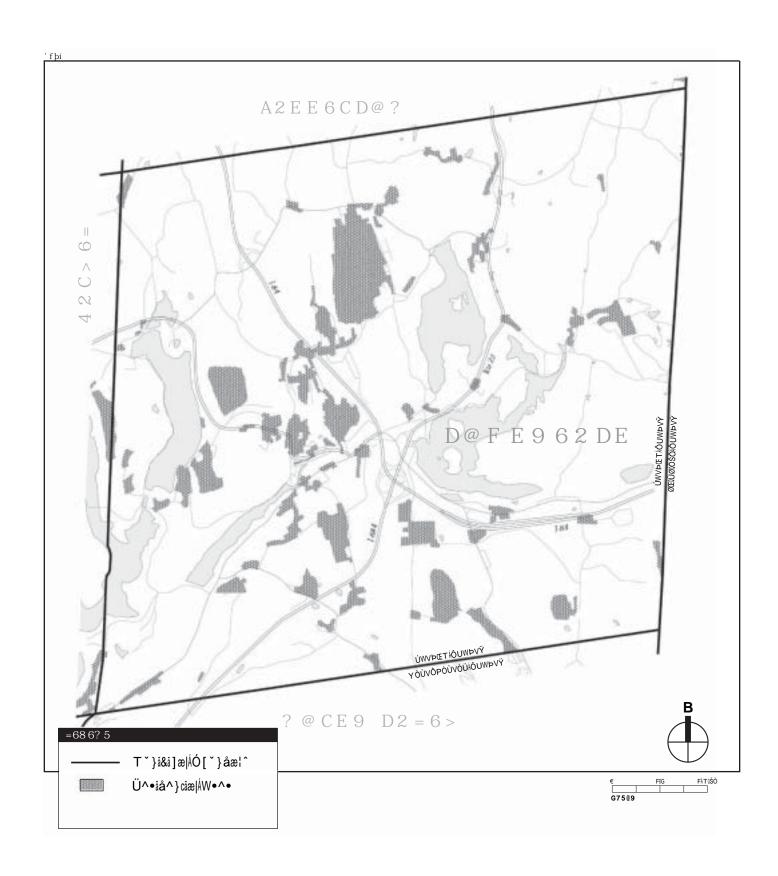
- 1. Expansion of residential development not only around older and denser neighborhoods like Tonetta Lake and Brewster Heights, but also in areas that historically have had fewer homes, like the Milltown Road area (see Figures 1.1-4a, 1.1-4b, and 1.1-6a).
- 2. Expansion of commercial districts along the major roads, especially Route 22 and Route 6. The interchange of Interstate 84 and Route 312 also developed as another node of commercial development—one that is continuing to expand today (see Figures 1.1-5a, 1.1-5b, and 1.1-6b).
- 3. Decreasing amounts of agricultural and forested land.

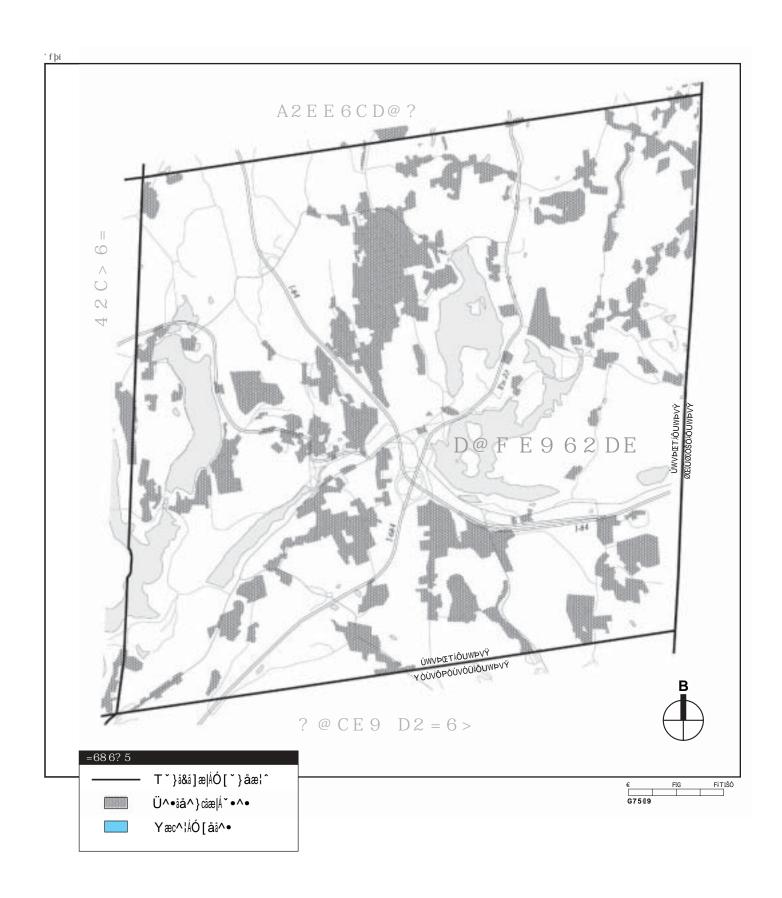
#### CORNELL SURVEYS: 1968 AND 1991

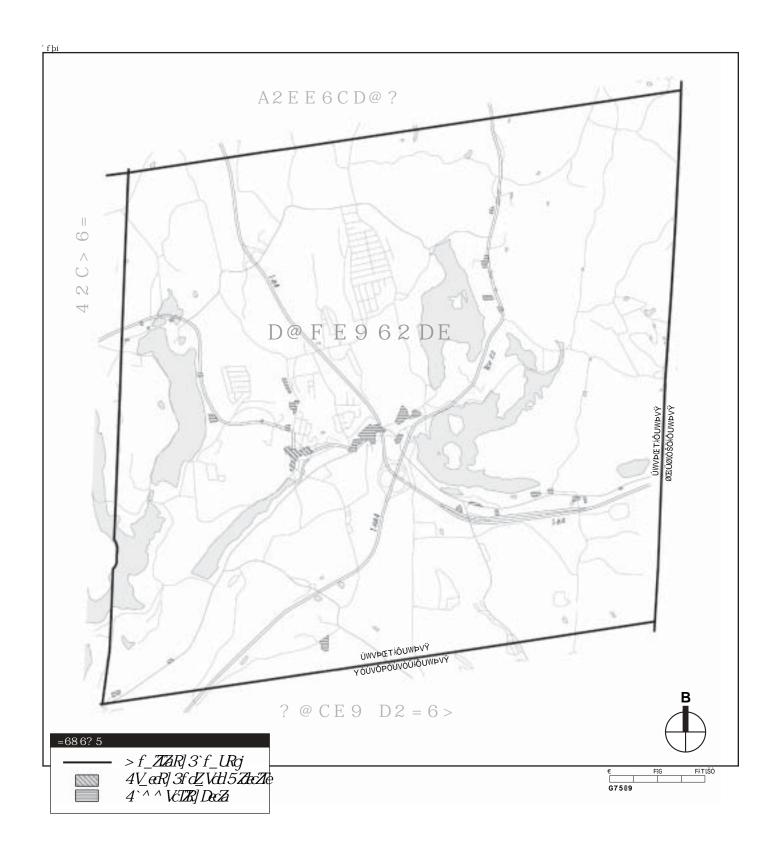
The Cornell Laboratory for Environmental Applications of Remote Sensing (CLEARS) conducted an analysis of changing land use patterns between 1968 and 1991 using aerial photography. This "Putnam County Land Use Dynamics Study" observed county-wide changes in land uses. Land uses were delineated and categorized based on manual interpretation of aerial photographs. Table 1.1-1 provides a general summary of some of the most relevant data from the Cornell surveys in 1968 and 1991.

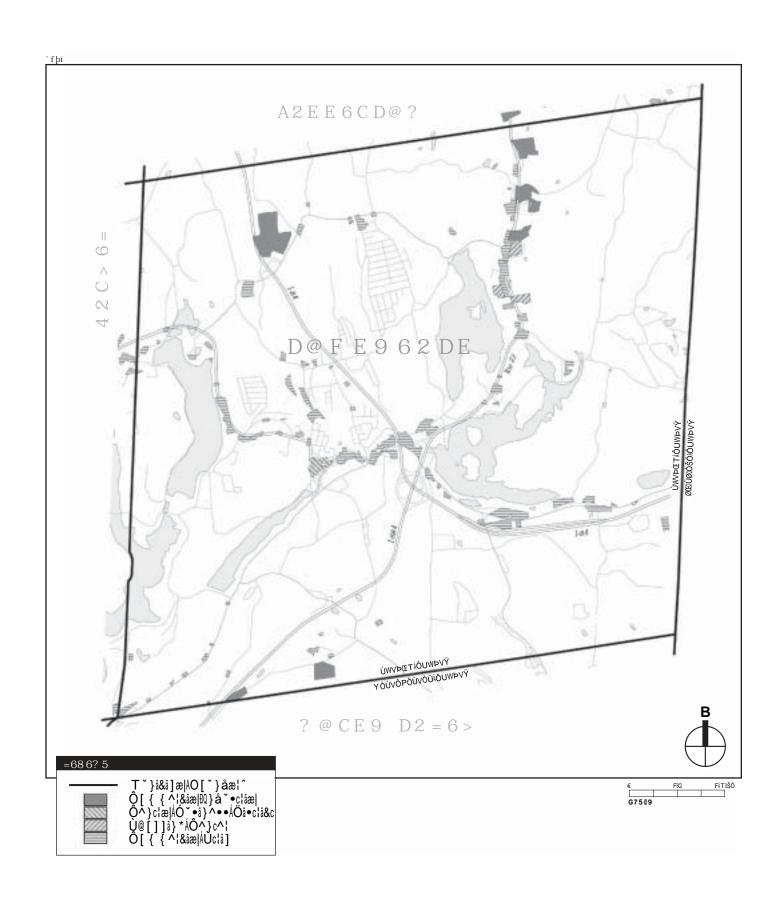
Several figures in Table 1.1-1 are particularly relevant for the Town of Southeast. Residential acreage increased by 125 percent between 1968 and 1991, while the population increased by only 15 percent over a similar period. Much of that may have been attributable to the increased residential development of the 1980s, which tended to favor larger lots. This Town-wide growth in residential land development (125 percent) substantially exceeded the growth experienced throughout Putnam County as a whole (almost 87 percent).

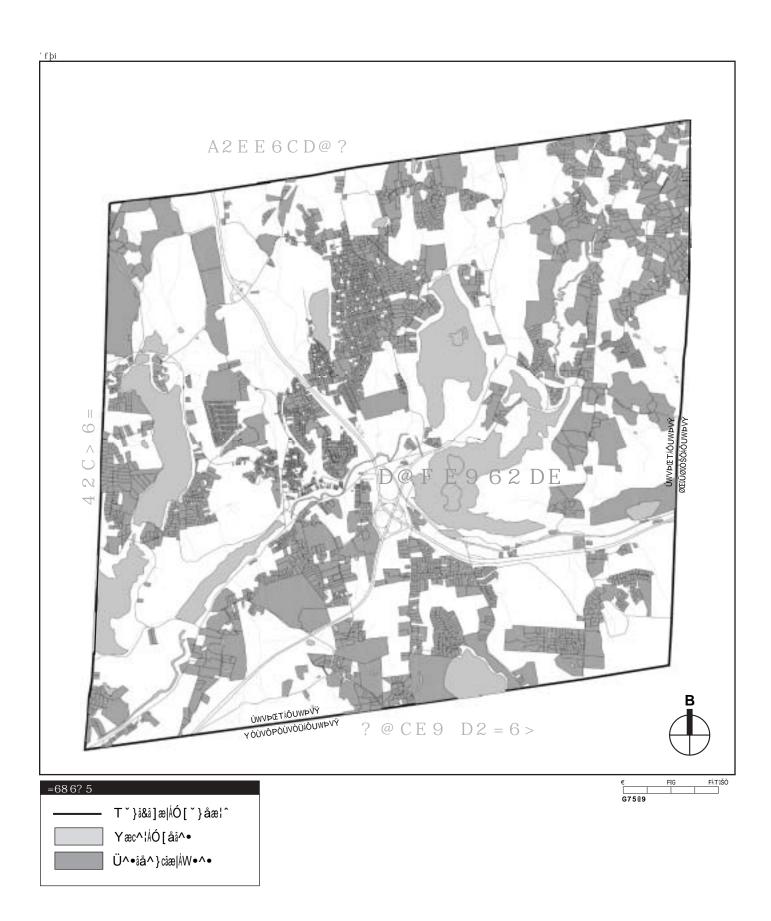
For commercial land, the increase is even more dramatic. Between 1968 and 1991, commercial acreage in the Town of Southeast increased by almost 500 percent, whereas Putnam County's











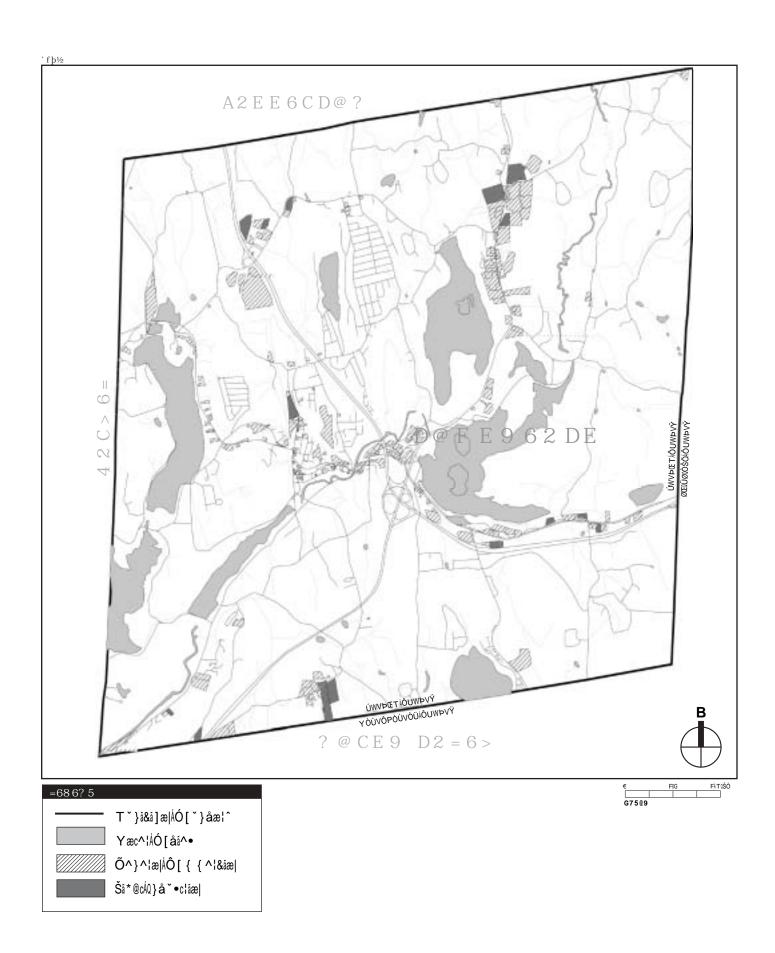


Table 1.1-1 Generalized Land Use Trends: Town of Southeast and Putnam County

	Town of Southeast				Putnam County					
	1968		1991		1968- 1991	1968		1991		1968- 199
	Acres	Pct.	Acres	Pct.	Pct. Change	Acres	Pct.	Acres	Pct.	Pct. Change
Residential	1,707	7.7%	3,842	17.3%	125.1%	13,377	8.5%	24,967	15.9%	86.6%
Commercial	118	0.5%	700	3.2%	493.2%	911	0.6%	2,028	1.3%	122.6%
Ag/For/Und/Wet*	19,589	88.0%	16,114	73.0%	-17.7%	136,149	86.5%	124,189	78.9%	-8.8%

Notes: \* "Ag/For/Und/Wet" = Agriculture, Forested, Undeveloped, and Wetland. Estimates for this category may not accurately reflect actual use of the land as the estimates were based on aerial reconnaissance and not ground surveys.

Total acreage exceeds total area in Town due to variables inherent to aerial surveys.

Source: Putnam County Land Use Dynamics Study, Cornell Laboratory for Environmental Applications of

Remote Sensing, 1993.

increase was 123 percent. Much of the increase in commercial land was experienced along Route 22 where service-oriented retail establishments were built to serve the growing residential population and travelers along Route 22. In addition, as the competitive advantages of Southeast's access to interstate highways became apparent to the expanding metropolitan market, new office and light industrial development began to appear in areas such as Fields Lane, Route 6 east of the Village of Brewster, and at the interchange of Interstate 84 and Route 312.

The net result of the increase in residential and commercial development is a marked decrease in agricultural land, forests, wetland areas, and other undeveloped land. In Southeast, between 1968 and 1991, there was a loss of 18 percent of this undeveloped land, double the rate of loss in Putnam County as a whole. Since a significant amount of the acreage in this category includes New York City watershed lands and reservoirs, the effective acreage of undeveloped land lost is greater than this figure suggests.

# LAND USE ESTIMATES: 1993 AND 2000

Two separate analyses of land uses within Southeast have been prepared using New York State Office of Real Property Services (RPS) tax parcel data. The 1993 data were obtained from the County's *Phase I Planning Analysis* for the Croton Plan which replicated data from the Final Generic Environmental Impact Statement on the Watershed Regulations prepared by NYCDEP. These data are aggregated into broad categories, but are not defined by specific RPS codes. Tax parcel data current to 2000 were obtained from the Town of Southeast's Tax Assessor specifically for use in this document. Once again, individual RPS classifications were aggregated into larger categories.

It is important to note that these two sets of data should not be directly compared to determine trends in land use because the data sources and analyses are likely different. For example, commercial and industrial land uses in 1993 occupy significantly more acreage than in 2000. This is likely the result of an uncorrected reporting of 1993 land uses which may show some vacant or residential (condominium ownership) land as commercial. The 2000 data were field checked for accuracy and corrected in some cases. (This does not imply that the underlying RPS

classification is in error; rather, that RPS classifications and land use classifications are not directly comparable.)

Estimates of land uses in the Town of Southeast for 1993 and 2000 are summarized in Table 1.1-2. The estimates are presented together in Table 1.1-2 in order to provide a *general* overview of land uses at two points in time. The current residential and commercial land uses are illustrated in Figures 1.1-6a and 1.1-6b, respectively.

While the data between 1993 and 2000 should not be directly compared, certain trends and the current land use pattern in 2000 are worth noting. Following the earlier land use trends identified between 1968 and 1991, residential development between 1993 and 2000 increased by approximately 2,085 acres and currently represents about 33 percent of the Town's overall land use inventory. A visual comparison of Figures 1.1-5b and 1.1-6b indicate significant growth in commercial and light industrial uses along the existing commercial corridors (Route 22 and Route 6) and in new areas such as Fields Lane and the interchange of I-84 and Route 312. Government and other institutional land uses have approximately doubled since 1993. Accordingly, agricultural and vacant lands have decreased substantially during the seven-year period.

Table 1.1-2 Land Use in Southeast, 1993 and 2000

	19	993	2000		
Land Use	Acres	Percentage	Acres	Percentage	
Agriculture	693	3.5%	283	1.5%	
Residential*	3,513	21.3%	6,277	33.2%	
Commercial/Industrial**	1,027	5.2%	702	3.7%	
Government/Institution	500	2.5%	1,077	5.7%	
Industrial***	299	1.5%		_	
Vacant	11,729	59.7%	6,379	33.7%	
Open Space	1,205	6.1%	1,237	6.5%	
Water Supply****	_	_	2,950	15.6%	
Total	18,966	100.0%	18,905	100.0%	

Notes: \* Approximately 5,960 acres (31.5 pct. of total land area) is single-family residential.

\* The 1993 data represent commercial land use only.

\*\*\* Industrial land use data for 2000 are combined with commercial land uses, above.

\*\*\*\* The 1993 data do not include a classification for water supply land.

Sources: 1993—Putnam County, Comprehensive Croton System Water Quality Protection Plan: Phase I Planning Analysis. October 1998, Revised November, 2000.

2000—Town of Southeast Tax Assessor.

Driving the consumption of undeveloped land is the intense pressure placed on the Town by an increasing population (see Table 1.1-3). The populations of Southeast and surrounding communities in Putnam County have been growing quickly over the last few decades. In the post-war decades from 1940 to 1970 Southeast's population increases lagged behind several of the other communities—such as Kent, Carmel, and Patterson—where population increases averaged 67 percent over the three decades. Growth rates between 1970 and 1980 in Putnam County towns were lower than the initial post-war boom but were still exceptionally high averaging 44 percent. During the same period, the villages in the County averaged only 0.6

Table 1.1-3 **Population Trends in Putnam County** 

		Popu	Percentage Change				
Town	1970	1980	1990	2000	1970-80	1980-90	1990- 2000
Putnam County	56,696	77,193	83,941	95,745	36.2%	8.7%	14.1%
Town of Southeast	9,901	11,416	14,927	17,316	15.3%	30.8%	16.0%
Town of Carmel	21,639	27,948	28,816	33,006	29.2%	3.1%	14.5%
Town of Kent	8,106	12,433	13,183	14,009	53.4%	6.0%	6.3%
Town of Patterson	4,124	7,247	8,679	11,306	75.7%	19.8%	30.3%
Source: Putnam County Division of Planning, U.S. Bureau of the Census.							

percent growth, with the Village of Nelsonville losing 2.7 percent of its population. Between 1970 and 1980 the County as a whole increased in population by 36.2 percent. This trend reflects the suburbanization of the New York metropolitan region during this period and appears to have concentrated in Carmel, Kent, and Patterson more than in Southeast.

Between 1980 and 1990, however, Southeast's growth rate surpassed the surrounding communities and the County as a whole. The Town's population increased by nearly 31 percent, more than triple the rate of Putnam County and significantly greater than that of surrounding towns. This disparity is a result of the decreasing availability of land in other towns. After land consumption peaked in the other communities during the previous three decades, Southeast became more attractive for development during the 1980s.

Between 1990 and 2000, Southeast's population growth continued to exceed growth throughout Putnam County and that of other municipalities, with the exception of Patterson. Patterson led the growth in the County with a rate of 30.3 percent, similar to what Southeast had experienced during the 1980s. Meanwhile, Southeast's population increased by 16 percent while the County's population increased by about 14.1 percent. Putnam County's growth rate between 1990 and 2000 surpassed all counties in the lower and middle Hudson River valley, including Westchester (5.6 percent), Dutchess (8.0 percent), Rockland (8.0 percent), and Orange (11 percent) counties.

Employment in Southeast has also increased between 1980 and 2000. New commercial development is evident in locations such as Mt. Ebo Corporate Park, Route 22, Fields Lane, and the interchange of Route 84 and Route 312. These areas remain ripe for additional commercial development, as will be discussed in later sections. As shown in Table 1.1-4, below, employers in Southeast provided 3,924 jobs in 1997, representing 35 percent of the County's job base. The largest industry sectors in Southeast included manufacturing, retail trade, and health care/social services. The manufacturing industry in Southeast provided almost half of the County's manufacturing jobs. Wholesale trade in Southeast accounted for more than half of the County-wide supply of such jobs. Concentration of these types of industries in Southeast is probably due to the Town's accessible location near major transportation routes.

Table 1.1-4
1997 Employment by Industry

	Putnam C	ounty	Town of Southeast		
Industry	Number of Establishments	Number of Employees	Number of Establishments	Number of Employees	
Manufacturing	74	1,595	27	789	
Wholesale Trade	126	729	52	391	
Retail Trade	320 2,707 88		88	728	
Real Estate, Rental & Leasing	107	251	38	76	
Professional, Scientific, & Technical Services	248	853	73	388	
Administrative, Support, Waste Management & Remediation Services	92	768	25	344	
Educational Services	17	50	3	N.A.	
Health Care & Social Services	189	1,999	50	517	
Arts, Entertainment & Recreation	34	377	12	61	
Accommodation & Food Services	144	1,207	44	431	
Other Services (except Public Administration)	168	670	40	199	
Total	1,519	11,206	452	3,924	

Source: U.S. Census Bureau, 1997 Economic Census.

N.A. Not available since this sector employs under 20 employees.

### 1.1.3 PUTNAM COUNTY PHASE I PLANNING ANALYSIS

Putnam County has completed a planning analysis to assist towns in developing their portion of the Croton Plan. The *Phase I Planning Analysis* is intended to "help identify water quality problem areas and community needs, including areas for projected growth and development which are impacted by regulatory requirements under applicable federal, state, local and [New York City Department of Environmental Protection] regulations." The *Phase I* report provides a baseline assessment of zoning and land use conditions within each municipality as well as a development build-out for areas zoned commercial, industrial, and high-density residential to determine "whether any adjustments are needed in [municipal] master plans and land use laws to meet community character needs and water quality goals." The *Phase I* report did not address low-density (single-family) residential land, which currently makes up approximately 32 percent of Southeast's land area; in addition, a significant portion of Southeast's undeveloped or vacant land is zoned for low-density residential use.

The *Phase I Planning Analysis* states: "It is assumed for purposes of this Planning Analysis that these two terms ["community character" and "special needs"] refer to local needs, whatever they may be, recognized by the Watershed Regulations at 18-82 as distinct from the City's need to improve and maintain the quality of its reservoirs and controlled lakes for purposes of Croton *Planning*" (emphasis added).<sup>3</sup> Further guidance is then provided in the *Phase I* report for determining the character and special needs of a community:

Maintaining community or Town centers, which are traditionally high-density mixed commercial, institutional, and residential development.

- ! Utilizing the three programs in the Watershed Regulations that address the long-term needs of community centers [referring to Designated Village Centers and Main Street areas where stormwater regulations may be relaxed].
- ! Maintaining a strong commercial and industrial tax base.
- ! Maintaining a strong commercial and industrial tax base to provide opportunities for local employment.
- ! Providing ample affordable housing so that demographics of the County are not forced to change as housing becomes increasingly confined to large expensive lots.
- ! Assuring that institutional facilities, such as schools, hospitals, government services, libraries and meeting halls, can be expanded or sited as needed by the community.

For the Town of Southeast, several of these "local needs" are less relevant than others. For instance, the first two factors listed above refer to development in existing centers. The Village of Brewster has historically served as a commercial center for Southeast, but it is a separate political jurisdiction. While Southeast's *Croton Plan*, and private commercial and residential land use decisions, will consider how the Village functions as a remaining commercial center, there are several factors that limit further development in the Village, including availability of land, zoning, and the Watershed Regulations, that suggest that the Village cannot serve all of the commercial needs of Southeast residents and businesses. Thus, new commercial development in the Town of Southeast will continue to occur in the Town outside of the Village.

The third and fourth factors listed above, regarding maintenance of a strong commercial and industrial tax base to balance residential taxes and to provide employment for residents of the Town and County, is an objective of most towns. The Town of Southeast is fortunate to have a healthy balance of commercial and residential uses, and the prospect of additional commercial uses in the short- and medium-term. The Town's *Comprehensive Plan* encourages commercial development in the Fields Lane and Route 312/I-84 interchange areas.

With respect to affordable housing, the Town's housing stock has traditionally been more affordable than other communities in Putnam County or to the south in Westchester County. As reported in the Town's *Comprehensive Plan*, Southeast provided over 31 percent of Putnam County's supply of attached housing units in 1990, but only 18 percent of the County's total housing stock. Within the Town, attached homes account for almost 37 percent of the Town's housing stock. Southeast's current housing mix provides a variety of housing types accessible to a range of household incomes. This mix, and the ability of existing residents to find housing within the Town that meets their needs, is an important element of Southeast's community character. The Village of Brewster also provides a supply of affordable housing. There has been an upward shift, however, in median household income and home sales price as Southeast has become more attractive to higher-income households seeking to move from Westchester and Fairfield counties.<sup>4</sup> It is possible that constraints on new residential development (see below) could put additional pressure on median prices of home sales.

Finally, the *Phase I Planning Analysis* indicates that institutional facilities and town uses must be allowed to continue to serve residents of the community. As Southeast experiences increased school enrollment from population increases and new residential development, the ability of the Town to provide adequate school space will be critical and must be maintained.

In order to assess how the Watershed Regulations may affect development in the watershed municipalities, Putnam County conducted a development build-out analysis for each of the

towns that provides a general measure of each town's growth potential (i.e., site-specific information was not used). This analysis is the central element of the *Phase I Planning Analysis* and is focused on commercial/industrial land and high-density residential land as these uses are more likely to have impacts on water quality than would low-density residential.

The development build-out analysis for Southeast notes that, of the 4,122 acres of land zoned for commercial and industrial uses in the Town, approximately 2,342 acres are considered vacant or underutilized. The *Phase I* report then determined how much of this vacant/underutilized land could actually be built upon after removing land that is constrained by regulatory restrictions including "regulatory buffers, wetlands, steep slopes, and poor soils that do not permit the use of sub-surface wastewater treatment systems." Of the 2,342 acres, only 531 acres of commercial and industrial land are considered available for development. On these 531 acres, approximately 6.95 million square feet of building area could be constructed based on existing zoning. Most of this development could occur in three areas: the Fields Lane area (1.77 million square feet), an area south of Route 312 and west of Tonetta Lake (1.10 million square feet), and an area northwest of Route 312 along the I-84 corridor (1.36 million square feet). While there is still a large amount of development that could occur in the Town, the locations where development could occur have been limited by environmental constraints and the Watershed Regulations.

For multi-family residential areas the conclusions on actual amount of developable land are similar. The total acreage of multi-family zones in Southeast is 848 acres. Only 22 acres are considered buildable when constraints such as soil type, wetlands, wetland buffers, and steep slopes are considered. The *Phase I* report estimates that an additional 122 multi-family dwelling units could be built, all of which would be in the 'RMF' zone straddling Doansburg Road. These questions are addressed in later sections of this document.

For both commercial/industrial and high-density residential areas, limitations on wastewater disposal place severe constraints on potential development. The *Phase I* report suggests that the phosphorus offset program could be used to allow additional wastewater capacity or that the diversion program could remove sufficient phosphorus from the basins in Southeast to allow for more development of higher-density land uses.

The *Phase I* report concludes by noting that "the regulatory requirements, including federal, state, local and [New York City Department of Environmental Protection] regulations, in combination with existing natural conditions, significantly reduce the amount of development [county-wide] which can occur under existing zoning laws." In Southeast, that reduction is considerable and the need for more detailed study of potential wastewater and stormwater infrastructure options is clear. Section 3.0 of the *Croton Plan* will address those issues.

The *Phase I* report does indicate several areas where the Town's current, or anticipated, development pattern may affect water quality protection. The report notes that continued development of commercial and light industrial uses in the Fields Lane area, as recommended in the Town's *Comprehensive Plan*, may be constrained by the prohibition on new surface-discharge wastewater treatment plants in the Muscoot basin. In addition, the *Phase I* report notes that the current phosphorus-restricted status of four of the five other reservoir basins in Southeast may limit the amount of additional commercial development in other areas of the Town. It should be noted that the *Phase I* report was generic and cannot be considered to provide enough site-specific detail to assume that certain development is not feasible in a particular location. Finally, the *Phase I* report notes the need for stormwater controls along the Route 22 corridor as well as possible sewer extensions to serve the Fields Lane, Route 22, and Route 312 areas. Each of these issues will be evaluated in Section 3.0 of the *Croton Plan*.

#### 1.1.4 LAND USE TYPES IN THE TOWN OF SOUTHEAST

Given the trends in land use and population identified above, and the challenges in planning for watershed protection identified in the *Phase I Planning Analysis*, it is useful to examine how the different land use types found in Southeast contribute to community character and how they affect water quality. The next section outlines the various environmental and land use planning factors for the land use patterns existing in Southeast: residential (both low- and medium-density), commercial (highway retail and office park), and open space.

### RESIDENTIAL USES

As Table 1.1-2 indicates, approximately 32 percent of the land area in Southeast is currently low-density (single-family) residential. In addition to this land is a significant portion of undeveloped or vacant land that is zoned for low-density residential use. Southeast is predominantly a bedroom community with a few concentrated areas of commercial activity. The expansion of residential uses shown in Figures 1.1-4a , 1.1-4b, and 1.1-6a was a combination of single-family and multi-family developments. Earlier periods of development directly after World War II saw an expansion of low- to medium-density housing development surrounding existing residential neighborhoods. Development around Tonetta Lake and Peach Lake, and the Brewster Heights neighborhood largely followed existing patterns of smaller houses on smaller lots. During the 1980s, however, the trend in housing development shifted toward medium- to high-density townhouse-style developments and larger lot single-family houses in the rural areas such as Milltown Road and Starr Ridge Road.

Each of the main types of residential development—denser neighborhoods of smaller homes and rural neighborhoods with larger homes—has a different impact with respect to community character and water quality and environmental planning.

Density of new residential housing is the primary determinant of its impact on community character. Where the rural character of residential areas can be maintained, even when new housing is developed, then community character is not threatened. When new housing is constructed without respect to existing patterns, then impacts on community character can result. Many of the Town's residential communities have large mature trees lining the roads with periodic broad vistas across a field or lake. The older neighborhoods with smaller homes also have tree-lined streets that are important to the overall character of the neighborhood. It should be noted that it is possible to develop high-density housing with fewer apparent impacts on character by incorporating strong design guidelines. Design guidelines for both residential and commercial areas are addressed in the Town's *Comprehensive Plan*.

One of the most useful indicators of potential environmental impact from residential development, especially with respect to water quality, is impervious surface area coverage. Impervious surfaces collect pollutants such as nutrients, oils, and particulates that get picked up in stormwater and carried to local water bodies. The traditional residential pattern of smaller lots served by a network of roads with convenient access to commercial shopping districts while covering a higher percentage of the land area with impervious surface may actually have less total square feet of impervious surfaces (counting all roads, driveways, and structures) than a lower-density pattern seen in newer subdivisions and housing in rural areas. However, these denser neighborhoods do not typically have enough land available for stormwater best management practices (or were never built with such controls to begin with).

A second important component of a residential neighborhood's environmental impact is the manner in which wastewater is collected and treated. Older neighborhoods are more easily served by central collection of wastewater in sewers and treatment of wastewater at a wastewater treatment plant because of the economy of scale involved with laying out sewer lines. Lowerdensity areas, on the other hand, require a greater capital investment in sewer lines to reach each of the houses within the service area. However, where central wastewater collection and treatment does not exist, older residential neighborhoods are more likely to be served by septic systems on lots that are too small to adequately treat wastewater while newer residential construction either has more up-to-date septic systems installed or have larger land available to find suitable soils for a septic system. Generally speaking, individual septic systems on lots less than one acre in size are more difficult to site than septic systems on larger residential lots. Where individual groundwater wells are used for drinking water supply on the same site, sufficient separation distance must be observed to ensure the safety of the drinking water. A oneacre lot provides the bare minimum separation distance. Evaluation of water quality impacts would have to be handled on a neighborhood-by-neighborhood basis and would have to look at housing density, soil conditions, and availability/feasibility of central wastewater collection.

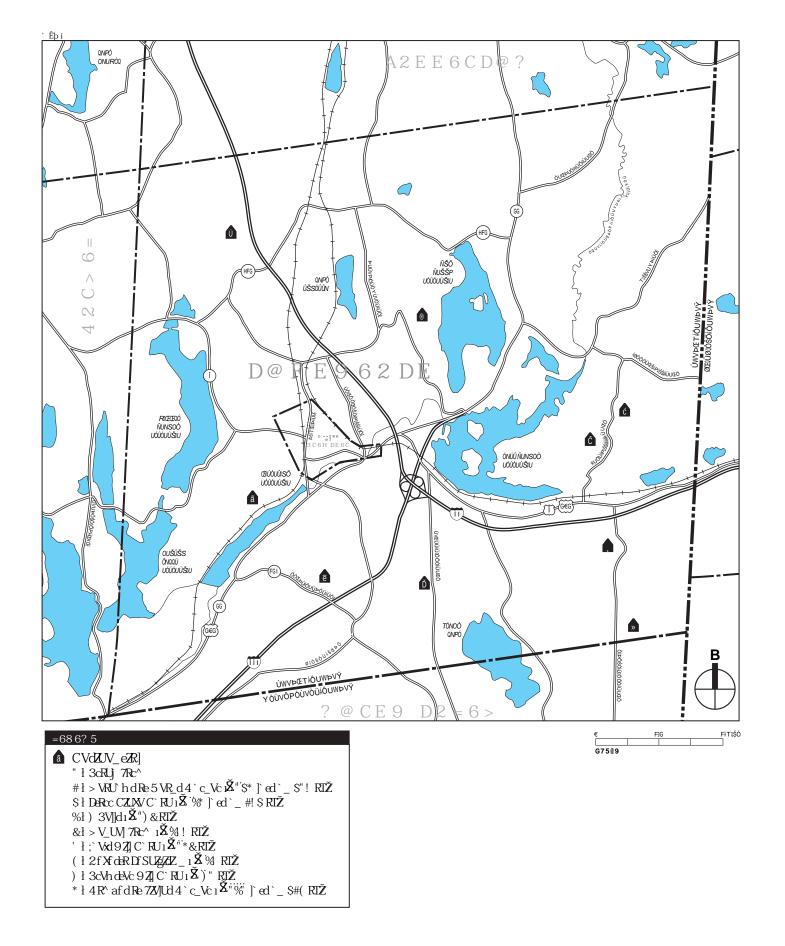
As the amount of available land diminishes within the Town, so to does the opportunity for large-scale residential subdivision. There are, however, a number of large parcels that have the potential for significant amounts of new residential development. Figure 1.1-7 locates some of the areas known by Town staff to have the potential for future residential use (based on previous or existing applications to the Town's Planning Board). A couple of these areas are in close proximity to reservoirs while others are notable for their rural character. How these areas are developed, then, may have impacts on community character, water quality, or both.

## COMMERCIAL SHOPPING DISTRICTS

Commercial shopping uses are concentrated along the major arterial roads traversing the Town: Route 22 and Route 6. The Route 22 corridor, especially, has become the "town center" for commercial activity. Respondents to a survey question asking where the Town's center is identified both Main Street in the Village of Brewster and the Route 22 corridor. The businesses in the Village serve some standard consumer convenience-goods needs, including banks, florists, delis, and small grocery-type stores. However, the majority of consumer convenience-goods establishments are located in the shopping centers on Route 22 and Route 6 west of the Village of Brewster. This distribution of commercial opportunities is likely to continue, with the Village taking on a more specialized role in providing general shopping goods that may be considered non-essential, such as furniture (antiques) and miscellaneous goods. Even if the Village were to have more convenience-goods businesses, the pattern of using Route 22 as the primary source for convenience goods is likely to continue. Residents of Southeast will also continue to use shopping areas outside the Town in Carmel or Danbury, Connecticut to satisfy other needs such as clothing and speciality products.

As the Town's primary gateway from the north (and for travelers continuing on Route 22 from I-684 to the south), Route 22 plays an important role in Southeast's community character. If additional highway commercial development in this corridor is proposed, some guidelines should be established to ensure consistency of character with other uses and to properly control new traffic. The New York State Department of Transportation is currently preparing design analyses on widening of Route 22 from I-684 to Doansburg Road. This widening has the potential for significantly affecting existing businesses and shopping centers, but would improve traffic flow through the area. The Town of Southeast supports the proposed improvements and

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is considering design guidelines for businesses along the corridor so that physical and aesthetic improvements to existing or new properties along the corridor can be done in a coordinated fashion. The *Comprehensive Plan* includes a discussion of commercial design along Route 22.

From a water quality standpoint, the Route 22 corridor is a primary contributor of stormwater runoff to both the Bog Brook and East Branch Reservoirs. New development along Route 22 would have to comply with the new Watershed Regulations with respect to stormwater management and impervious surfaces. Constraints on development along Route 22 have been identified and it is currently uncertain how new commercial uses on Route 22 can be developed within the constraints of the Watershed Regulations.

Additional opportunities for commercial expansion lie on Route 6 both west and east of the Village of Brewster. New commercial businesses along the western portion toward Carmel could serve convenience-good demand for residents located in Brewster Heights and Turk Hill, but are limited due to the proximity of the Middle Branch Reservoir. Similarly, along Route 6 east of the Village, additional development is constrained by the topography on both the north and south sides of the road and the proximity of the East Branch Reservoir. Small light industrial or warehousing uses have been considered along this portion of Route 6. These uses would be consistent with the existing businesses, but would not serve to enhance the corridor as a gateway to the community. Figure 1.1-8 indicates the location of commercial areas and potential commercial development proposals.

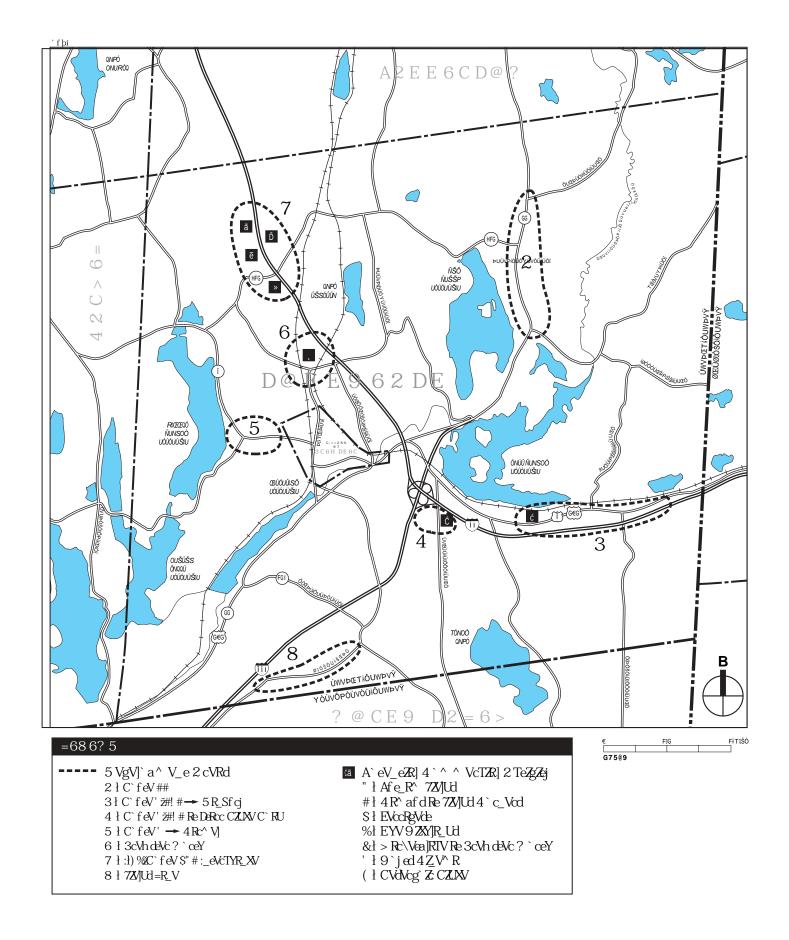
Larger development sites at the interchange of I-684 and Route 6 have been proposed and have met with considerable public opposition. Large-scale commercial development at this location could have an immediate impact on community character for people entering the Town from I-684 and from the historic district along Starr Ridge Road depending on how the development is configured and designed. A large-scale use, if well designed, could have a beneficial impact on community character.

New commercial development along Route 6 would be constrained by the Watershed Regulations with respect to wastewater and impervious setback restrictions. None of these areas are currently served by sewers.

Commercial shopping districts tend to have high percentages of impervious surface area from buildings and parking lots. These impervious surfaces collect pollutants. Local and state stormwater management regulations require that stormwater be treated using best management practices (BMPs). However, even with appropriate BMPs, high intensity commercial use areas pose a threat to surface water. Groundwater quantity is also affected as impervious surfaces prevent recharge of groundwater levels.

# COMMERCIAL OFFICE AND INDUSTRIAL DISTRICTS

Southeast has also experienced an increase in office commercial and light industrial/warehouse development. Office parks such as the Mt. Ebo Corporate Park on Route 22 and Terravest Corporate Park on Route 312 have captured some of the early interest in Southeast as a commercial office and manufacturing center. Interest in similar development was slack in the 1990s following the economic decline, but recent improvements in economic conditions have resulted in a resurgence of demand for new commercial office and light industrial uses. As a result, plans for new commercial office or light industrial uses are being developed and are focused in several distinct areas of Southeast: Fields Lane and the Interchange of I-84 and Route 312. The impacts from these uses must be considered on a case-by-case basis. When properly designed and located, new commercial uses can contribute to community character. Adequate



stormwater management and wastewater treatment must be available for these land uses to comply with water quality objectives. At the Interchange of I-84 and Route 312, the Town has adopted a Conditional Rezoning for certain commercial parcels that establishes strong design guidelines for new uses to ensure that the overall appearance and character of the area is not dominated by any one development. The guidelines address not only site coverage and building envelope conditions but also building design and materials, landscaping, and lighting.

## OPEN SPACE AND AGRICULTURAL USES

The Town's supply of open spaces (both public and private lands) includes land surrounding the reservoirs and East Branch of the Croton River that is owned by the New York City Department of Environmental Protection (NYCDEP). Significant elements of the Town's open spaces are the New York State Department of Environmental Conservation managed Bog Brook Unique Area, the Great Swamp Critical Environmental Area (CEA), the Atlantic White Cedar swamps north of Lake Tonetta and Brewster Pond, and several aquifer areas including one that provides the Village of Brewster with drinking water. Other important parcels are owned by Putnam Land Trust/Save-Open-Spaces, a local land trust. A number of designated wetlands are also located throughout Southeast. Together these open spaces contribute to the community character and provide clean drinking water for residents of the Town and New York City.

Putnam County's Soil and Water Conservation District recently received a grant through the Water Resources Development Act to conduct an inventory and environmental assessment of agricultural uses in the County. The inventory used the New York State Real Property Tax classification to determine which properties were active agricultural uses. The County will assess the environmental profile of these uses as part of its study.

Within Southeast, twenty-four (24) agricultural parcels were identified totaling approximately 855 acres. These agricultural uses are divided between horse farms, dairy farms, orchards, nurseries and greenhouses, and some land currently used for educational purposes or as rural residential property. These properties contribute to the Town's mix of rural and suburban community character and several are located along scenic roads or entrances to the Town. Communities in the West-of-Hudson watershed district have found agricultural uses to be a "preferred land use" as they contribute economic activity, aesthetic qualities, and either are, or can be made to be through use of best-practices, environmentally beneficial.

## **COMMUNITY FACILITIES**

The Town has a variety of municipal facilities, some of which need expansion to satisfy increased use of older buildings. A multi-year program of expansion lies ahead for the Town described below.

#### Town Administration

Central administration of Southeast is located in Town Hall on Main Street in the Village. The building cannot be expanded, but the need for expansion is clear. Certain Town offices are located two blocks away in the Old Southeast Town Hall basement. This building is also inadequate; court is held here in an overcrowded room. Use of the upstairs auditorium is restricted due to building and fire codes. The Town is interested in pursuing opportunities for a new Town Hall and Court complex. Consideration should be given to the appropriate reuse of the historic bank building that is now Town Hall, so that its architectural integrity is maintained.

### Library

There is a public library in the Town of Southeast located in the Village of Brewster. The library needs physical expansion, but the current building affords restricted opportunity for this. As the Town continues to grow, it will be important to augment this significant resource. Some of the same considerations apply as with the Town hall: preservation of the architectural attractiveness of the building, through either its expansion or reuse, and preservation of a library location in the Village. There may come a time when the Town can support a branch library, with the main library at its current location.

# **Emergency Services**

All ambulances are currently housed in the Town's original firehouse, located in the Village. A new firehouse is located on Route 312 at North Brewster Road which provides good response time to the developing northern areas of the Town. Future needs are anticipated to center around Fields Lane and the Milltown Road areas. Fields Lane is a developing commercial area of large mixed warehouse and office buildings. The Milltown Road area has a growing number of housing developments. While a separate sub-station may not be required here, specialized brush-fire equipment may be necessary to handle fire in this area.

#### Recreation and Parks

The Town owns a little over 200 acres of park land, with most of the acreage geared towards active recreation such as playing fields, swimming, tennis courts, baseball and basketball. This emphasis has tended to counter-balance the quieter recreation (nature study, birdwatching, walking trails) available at State and County parks or in the natural areas of the Town.

The Town's future need will remain primarily the provision of active recreation, but passive recreation needs to be included in the parks and recreation master plan. Open space preservation is one method of acquiring places for passive recreation. While some open space will need to be set aside for animal and vegetative habitat, some acreage can support human use. Therefore, decisions on open space acquisition and management should be made jointly by the Town's recreation department, the several conservation agencies and organizations, and the Planning Board.

Long-term plans call for a Town pool and a recreation center that would allow more programs, including summer camp space.

A parks master plan is currently being prepared for the Town. The following guidelines should be considered in this plan.

## ! Existing Sites

Some of the small parcels and the larger, newly acquired properties should be left natural and undisturbed. Other parcels should be cleared for small, local neighborhood play area, with playground equipment, picnic tables, stakes for volleyball or badminton, and cleared areas for lawn games.

Prolonging and increasing park usage might be attained through simple measures of night-time illumination or a park attendant.

Old Southeast Town hall should be renovated to meet fire and building codes, to open up this building further to public use. The availability of the auditorium might then encourage local theatrical and musical groups.

#### ! New Sites

If a suitable location is identified, a multi-purpose recreation complex should be constructed which would house sports, dances, play area, meeting area, and a pool. Networks of greenways, bike paths, and hiking horse riding and cross-country skiing trails that could be linked with Putnam County greenway and bikepath improvements should be evaluated. Toboggan and sledding hills should be designated and kept free from development.

Satellite parks should be created devoted to single sports uses, such as basketball courts or tennis courts or soccer fields.

All parks should encourage the use by elderly and handicapped Town residents, with appropriate kinds of recreation and parking. All parks should have some quiet areas, with benches and tables, and perhaps a garden.

#### **SCHOOLS**

The Brewster Central School District serves most of Southeast, part of Patterson, a smaller part of Carmel, and the entire Village of Brewster. Schoolchildren who live in Southeast but are outside the school district attend either North Salem or Carmel public schools. The Brewster Central school district has a 72-acre campus that houses Brewster High School (grades 9-12), Henry H. Wells Middle School (grades 6-8), C.B. Starr School (grades 4-5), and JFK Elementary School (grades K-3) as well as playing fields. The Garden Street Elementary School (grades K-3) is located in the Village.

The schools within the district are all operating at or above capacities established by the New York State Education Department. School District voters approved a \$27.9 million bond referendum in December 1999 to renovate the High School and add 24 additional classrooms and an auditorium. These improvements were needed to accommodate a projected increase in enrollment from approximately 990 in the 2000-2001 school year to 1,160 in the 2005-2006 school year. The High School currently has a capacity of 732 students and will be expanding its facility.

The need for additional space within lower grade levels is anticipated as a result of revised State performance standards for curriculum and Regents testing. To meet the anticipated level of instruction for these new standards the School District envisions the need for full-day Kindergarten and new pre-Kindergarten instructional space. In addition, the Wells Middle School is currently well over its capacity of 623 students. Project enrollment at this school in 2002-2003 is 869.

To accommodate the need for physical space and any additional recreation facilities (which are currently shared with the Town of Southeast recreation programs), the School District is seeking opportunities to obtain additional land, preferably in the area of the current school campus.

# 1.1.5 TRANSPORTATION

The Town's road network is integrally tied to its land use pattern and its economic development. How well people move between home and work or home and shopping is an essential determinant of quality-of-life and the attractiveness of the Town as a place to live and do business. Roads also have a significant function within the scenic quality of the Town.

Southeast's location along major transportation routes such as I-684 and I-84, and the Metro-North Railroad provides access to jobs for its residents and provides access to employers seeking to do business in the Town. The Town of Southeast is committed to maintaining an efficient, uncongested, safe and well-maintained network of roadways to serve local and through-travelers, especially residents, businesses, and visitors. The Town is committed to maintaining the rural character of Southeast by protecting the character of many of its rural and scenic roadways. The Town is implementing a Transportation Improvement District (TID) in the northwestern section of the Town along the Route 312 corridor. The TID would be used to identify and finance necessary transportation improvements.

### 1.1.6 COMMUNITY CHARACTER SUMMARY

The Town's community character is a composite of the land use and population trends described above, the natural resources and topography of the Town, the transportation network, and the Town's vision as stated in its *Comprehensive Plan*. The following vision statement is replicated from the Town's *Comprehensive Plan*:

"The Town of Southeast seeks to balance a healthy economic environment with quality residential and commercial character while protecting the integrity of its natural resources and infrastructure. This overarching vision is embodied in the goals and policies of this *Comprehensive Plan*:

# Protect the Town's community character

Maintain the Town's picturesque rural character, including historic and scenic resources, while allowing for appropriate commercial and residential development.

# Protect valuable natural resources

The Town of Southeast is committed to protecting its natural resources as a critical component of quality-of-life, the Town's character, the region's ecological functions, and water supply. Wetlands, watercourses, open space, woodlands, and agricultural lands contribute to the quality and character of Southeast, and their preservation, enhancement, and restoration must be considered in all actions that may affect them.

## Provide a diversity of housing opportunities

The Town of Southeast seeks a balanced diversity of housing opportunities and types to meet the needs of its current and future residents. The Town seeks to maintain its existing supply of housing, including its variety of price ranges, to accommodate residents of all income groups. New housing styles and types should reinforce the Town's rural qualities and predominately single-family detached housing patterns. New housing should also be sensitive to existing environmental constraints, including those related to the Croton watershed.

# Provide a healthy economic environment

The Town of Southeast seeks a diversified base of business and industry to strengthen the Town's tax base and to provide employment opportunities for area residents while preserving the Town's rural residential character and protecting the Town's portion of the regional drinking water supply. Future non-residential uses should be targeted to those areas where they will have minimal impact on water quality, traffic, and community character.

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# Provide necessary community services

The Town of Southeast is committed to providing its residents with adequate, accessible, and efficient community services and facilities.

## Maintain the Town's transportation network

The Town of Southeast is committed to maintaining an efficient, uncongested, safe and well-maintained network of roadways to serve local and through-travelers, especially residents, businesses and visitors. The Town is committed to maintaining the rural flavor of Southeast by protecting the character of many of its rural and scenic roadways."

# 1.2 PLANNING FOR FUTURE DEVELOPMENT

#### 1.2.1 COMPREHENSIVE PLAN

The Town has revised its *Comprehensive Plan* to consider how the watershed planning efforts need to be reflected in local land use laws and practices. In addition, the local laws themselves (e.g., zoning, subdivision, wetlands) will be reviewed for consistency with the *Comprehensive Plan*, the *Croton Plan*, and watershed planning efforts in general.

#### 1.2.2 INTER-MUNICIPAL ISSUES

As part of the Croton Plan effort, the Town of Southeast will seek to coordinate planning with surrounding municipalities. Of particular concern is coordination with the Village of Brewster over land use development and infrastructure construction and use, and with the Town of North Salem in Westchester County over conditions affecting water quality in Peach Lake.

Areas where reservoir basins cross municipal borders will also be examined to ensure consistency in planning programs between municipalities.

## 1.2.3 TRANSPORTATION

The transportation network that serves commercial and residential uses throughout the Town should be assessed with respect to adequacy of the existing network and the potential for future improvements to the network where required. Proposed improvements to Route 22 are currently being considered to address existing capacity and safety issues. The roadway network within the northwest area of the Town is being evaluated as part of a Transportation Improvement District to address existing capacity and safety issues in that area. These potential improvements should be examined with respect to water quality impacts as many of the important roads lie adjacent to streams or reservoirs. It has come to the Town's attention that Metro-North Railroad is considering expansions of its service to include the Maybrook Line to Danbury and a potential use of the Beacon Line between Southeast and Beacon. If either of these new services were to occur, and development patterns were to shift to capture users of the new lines, community character and planning for the Town would have to be examined.